

Non-Print Literature (NPL) Search Results 09/751,312

SYSTEM:OS - DIALOG OneSearch

File 2:INSPEC 1969-2001/May W3

(c) 2001 Institution of Electrical Engineers

File 6:NTIS 1964-2001/Jun W1

Comp&distr 2000 NTIS, Intl Cpyrght All Right

*File 6: See HELP CODES6 for a short list of the Subject Heading Codes (SC=, SH=) used in NTIS.

File 8:Ei Compendex(R) 1970-2001/May W3

(c) 2001 Engineering Info. Inc.

*File 8: New price changes effective May 1, 2001. See Help Rates8.

Truncate CC codes for complete retrieval.UDs were adjusted.

File 14:Mechanical Engineering Abs 1973-2001/Mar

(c) 2001 Cambridge Sci Abs

File 31:World Surface Coatings Abs 1976-2001/May

(c) 2001 Paint Research Assn.

*File 31: There is no data missing. UDs have been adjusted to reflect the current months data. See Help News31 for details.

File 32:METADEX(R) 1966-2001/Jul B2

(c) 2001 Cambridge Scientific Abs

*File 32: See Help Codes32 for a list of the Alloy Class Codes(CC=) and Alloy Class Names(CN=) used in Metadex.

File 33:Aluminium Ind Abs 1968-2001/Jun

(c) 2001 Cambridge Scientific Abs

File 34:SciSearch(R) Cited Ref Sci 1990-2001/May W3

(c) 2001 Inst for Sci Info

File 35:Dissertation Abstracts Online 1861-2001/Jun

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File 63:Transport Res(TRIS) 1970-2001/Apr

(c) fmt only 2001 Dialog Corp.

File 65:Inside Conferences 1993-2001/May W2

(c) 2001 BLDSC all rts. reserv.

*File 65: CD=2000 and CY=2000 are not fully functioning.

Please see Help News65 for details.

File 87:TULSA (Petroleum Abs) 1965-2001/May W3

(c)2001 The University of Tulsa

File 94:JICST-EPlus 1985-2001/Apr W5

(c)2001 Japan Science and Tech Corp(JST)

*File 94: There is no data missing. UDs have been adjusted to reflect the current months data. See Help News94 for details.

File 96:FLUIDEX 1972-2001/May

(c) 2001 Elsevier Science Ltd.

*File 96: Please note new price changes effective February 1, 2001. See Help Rates96 for details.

File 99:Wilson Appl. Sci & Tech Abs 1983-2001/Apr

(c) 2001 The HW Wilson Co.

File 103:Energy SciTec 1974-2001/May B1

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*File 103: For updates please see Help News103.

For access restrictions, see HELP RESTRICT.

File 108:AEROSPACE DATABASE 1962-2001/MAY

(c) 2001 AIAA

*File 108: For update information please see Help News108.

File 118:ICONDA-Intl Construction 1976-2001/May

(c) 2001 Fraunhofer-IRB

File 144:Pascal 1973-2001/May W3

(c) 2001 INIST/CNRS

File 238:Abs. in New Tech & Eng. 1981-2001/May

(c) 2001 Reed-Elsevier (UK) Ltd.
File 239:Mathsci 1940-2001/Jun
(c) 2001 American Mathematical Society
File 240:PAPERCHEM 1967-2001/May W1
(c) 2001 IPST
File 248:PIRA 1975-2001Jun W1
(c) 2001 Pira International
File 293:Eng Materials Abs(R) 1986-2001/Jun
(c) 2001 Cambridge Scientific Abs
File 315:ChemEng & Biotec Abs 1970-2001/Jan
(c) 2001 DECHEMA
File 323:RAPRA Rubber & Plastics 1972-2001/May
(c) 2001 RAPRA Technology Ltd
File 335:Ceramic Abstracts 1976-2001/Q2
(c) 2001 Cambridge Scientific Abs.
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 77:Conference Papers Index 1973-2001/May
(c) 2001 Cambridge Sci Abs
File 987:TULSA (Petroleum Abs) 1965-2001/May W3
(c)2001 The University of Tulsa
File 292:GEOBASE(TM) 1980-2001/May
(c) 2001 Elsevier Science Ltd.
*File 292: Please note new price changes effective February 1, 2001.
See Help Rates292 for details.
File 105:AESIS 1851-2001/Jan
(c) 2001 Australian Mineral Foundation Inc
File 89:GeoRef 1785-2001/May B2
(c) 2001 American Geological Institute
File 155:MEDLINE(R) 1966-2001/May W5
(c) format only 2000 Dialog Corporation
*File 155: Medline has now updated. For further information
see Help News155.
File 73:EMBASE 1974-2001/May W2
(c) 2001 Elsevier Science B.V.
*File 73: For information about Explode feature please
see Help News73.
File 5:Biosis Previews(R) 1969-2001/May W2
(c) 2001 BIOSIS
File 305:Analytical Abstracts 1980-2001/Apr W5
(c) 2001 Royal Soc Chemistry
*File 305: Frequency of updates and Alerts changing to weekly.
See HELP NEWS 305.

Set	Items	Description
S1	1477403	MRI OR MAGNETIC(W) RESONANCE OR (ANGIOGRAPH? OR CARDIOANGIO- GRAPH?) (2N) NUCLEAR OR NMR OR MAGNETORESONANCE OR PMR OR PROTO- N(W) MAGNETIC(W) RESONANCE OR MR() (IMAGE? OR IMAGING)
S2	6502	CC=(A8760I OR B7510N)
S3	1477475	S1 OR S2
S4	1023	(CONFIGUR? OR ARRANG?) (S) (CONTROL? (4N) SEQUENC?)
S5	2472248	S3 OR IMAGING?
S6	15	S4 AND S5
S7	12569	CONTROL? (4N) (SUBSYSTEM? OR SUB() SYSTEM?)
S8	152	S7 AND S5
S9	66094	CONTROL? (3N) CIRCUIT?
S10	1	S8 AND S9

S11	36	S8 AND (TIME? OR CLOCK?)
S12	1	S8 AND CONTROL? (4N) SEQUENC?
S13	11	RD S6 (unique items)
S14	2	S8 AND INDEPEND? (2N) CONTROL?

10/9/1 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abstracts Online
(c) 2001 UMI. All rts. reserv.

763151 ORDER NO: AAD81-25846

DISTRIBUTED PROCESSING APPROACHES TO REAL-TIME DATA COLLECTION: AN
APPLICATION IN ***NMR*** SPECTROSCOPY

Author: TERPSTRA, DANIEL KEVIN

Degree: PH.D.

Year: 1981

Corporate Source/Institution: THE FLORIDA STATE UNIVERSITY (0071)

Source: VOLUME 42/06-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 2359. 388 PAGES

Descriptors: CHEMISTRY, ANALYTICAL

Descriptor Codes: 0486

Traditional approaches to the computerization of laboratory instrumentation result in a one-to-one correspondence between computer and instrument. This becomes ineffective in a multiple instrument laboratory. An alternative approach is one in which each instrument has a dedicated data acquisition and control computer, with several such computers linked through a laboratory data network to a centralized data management computer. The development of such an approach is the subject of this dissertation. The problem is first defined in the context of a Nuclear ***Magnetic*** ***Resonance*** (**NMR**) laboratory, followed by a brief history of computers and a discussion of the ways in which computers have been applied in ***NMR***.

After this, an introduction to the concepts essential to computer networking is presented, continuing with a discussion of the development of a local area network that utilizes industry-standard IEEE-488 protocols and incorporates differential line transmission for long-distance error-free operation. A Z80 microcomputer-based network interface is described which facilitates the easy connection of virtually any host computer to the network. Specific circuitry is also presented to interfaces S-100 (IEEE-696) microcomputers to the network.

Following discussion of the laboratory data network, the dissertation provides discussion of a microcomputer which was designed to operate as a stand-alone data acquisition and experimental control system, as well as a node in the network discussed earlier. This microcomputer utilizes several Z80 microprocessors and is based on S-100 circuit cards. Operator interaction is handled via a keyboard and a high resolution video graphics monitor. All software is based in Read Only Memory, providing a low-cost stand-alone system for a variety of laboratory applications. All data acquisition and experimental control is performed with sophisticated custom-built circuitry.

The remainder of the dissertation concentrates on the development of the custom circuits for data acquisition and experimental ***control***. A ***subsystem*** is discussed that allows the interfacing of the host microcomputer to as many as 255 independent control processors via a single twisted-pair cable: useful in low-speed control and monitoring applications. A second subsystem handles data collection and time-critical instrument ***control***. This ***subsystem***, called the DAS, or Data Acquisition Subsystem, is based on modular design approaches, and consists of from two to five S-100 circuit cards. A minimal system is one Analog to Digital Converter card and a Signal Averager card. The AD ***circuit*** has on-board ***controls*** for analog gain, low-pass filtering, and digital resolution. The Signal Averager has three on-board counters to provide all

of the control and timing signals for data collection. A hardware averager is also provided to allow the coaddition of repetitive signals. The Signal Averager is designed to support an optional Direct Memory Access Sequencer for high-speed signal averaging. A second AD card can be added to this subsystem, providing simultaneous two-channel data collection. The DAS optionally includes a Programmable Timer/Pulse ***Controller***
circuit which executes sophisticated timing programs of up to 16 steps with 50 nanosecond time resolution and maximum step length in excess of 15 hours. Precise experimental control is obtained through any of 24 programmable outputs that can be activated on any step.

Examples of the use of this system in ***NMR*** data collection are included.

12/9/1 (Item 1 from file: 108)
DIALOG(R) File 108:AEROSPACE DATABASE
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00645535 N73-33122

Analysis of requirements for computer ***control*** and data processing experiment ***subsystems***, Image Data Processing System (IDAPS) users manual (7094 version), volume 1 (User manual for Image Data Processing System, language and control system for processing image data)

System Development Corp., Huntsville, AL.

CORPORATE CODE: S8792091

Sep. 1973 2 VOL. 110P.

REPORT NO.: NASA-CR-124438; TM(L)-HU-033/008/00-VOL-1

CONTRACT NO.: NAS8-25471

LANGUAGE: English

COUNTRY OF ORIGIN: United States COUNTRY OF PUBLICATION: United States

DOCUMENT TYPE: REPORT

DOCUMENTS AVAILABLE FROM AIAA Technical Library

OTHER AVAILABILITY: NTIS

JOURNAL ANNOUNCEMENT: STAR7324

A user's manual is presented for IDAPS (Image Data Processing System) a computer based, user oriented language and control system for use in processing image data. It was designed to meet the requirements for restoring, enhancing, and analyzing X-ray photographic images returned by the Solar ***Imaging*** X-ray Telescope. Although IDAPS was developed for this telescope, the capabilities of the system are general purpose in nature and are applicable to many other image processing applications. Image processing techniques incorporated in IDAPS include capabilities for filtering, convolving, deconvolving, correlating, contouring, smoothing, gray scale altering, averaging, rotating, expanding, scaling, and subsetting. A total of 44 operators are available to the user for use in restoring, enhancing, or analyzing images. In addition, 22 operators are provided to assist the user in ***controlling*** the image processing ***sequence*** including image input and output file handling, and looping.
(Author)

DESCRIPTORS: *COMPUTER SYSTEMS PROGRAMS; *DATA PROCESSING; *PHOTOGRAPHY; INPUT/OUTPUT ROUTINES; LOADING OPERATIONS; MANUALS; PROGRAMMING LANGUAGES; SUBROUTINES; X RAY TELESCOPES

SUBJECT CLASSIFICATION: 6508 Computers (1965-74)

COSATI CODE: 9B Fluidics and Fluorics

13/9/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2001 Institution of Electrical Engineers. All rts. reserv.

6015410 INSPEC Abstract Number: B9810-6140C-407, C9810-7410D-077

Title: High-performance automatic target recognition through data-specific VLSI

Author(s): Kang-Ngee Chia; Hea Joung Kim; Lansing, S.; Mangione-Smith, W.H.; Villasensor, J.

Author Affiliation: Nat. Comput. Board, Singapore

Journal: IEEE Transactions on Very Large Scale Integration (VLSI) Systems
vol.6, no.3 p.364-71

Publisher: IEEE,

Publication Date: Sept. 1998 Country of Publication: USA

CODEN: IEVSE9 ISSN: 1063-8210

SICI: 1063-8210(199809)6:3L:364:HPAT;1-L

Material Identity Number: P986-98003

U.S. Copyright Clearance Center Code: 1063-8210/98/\$10.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Under the Mojave ***configurable*** computing project, we have developed a system for achieving high performance on an automatic target recognition (ATR) application through the use of ***configurable*** computing technology. The ATR system studied here involves real-time image acquisition from a synthetic aperture radar (SAR). SAR images exhibit statistical properties which can be used to improve system performance. In this paper, the Mojave ***configurable*** computing system uses field programmable gate arrays (FPGA's) to implement highly specialized circuits while retaining the flexibility of programmable components. A ***controller*** ***sequences*** through a set of specialized circuits in response to real-time events. Computer-aided design (CAD) tools have been developed to support the automatic generation of these specialized circuits. The resulting ***configurable*** computing system achieves a significant performance advantage over the existing solution, which is based on application specific integrated circuit (ASIC) technology. (23 Refs)

Subfile: B C

Descriptors: circuit CAD; field programmable gate arrays; image recognition; radar computing; radar ***imaging***; radar target recognition; reconfigurable architectures; synthetic aperture radar; VLSI

Identifiers: automatic target recognition; data-specific VLSI; Mojave configurable computing; real-time image acquisition; synthetic aperture radar; statistical properties; field programmable gate array; controller; circuit CAD

Class Codes: B6140C (Optical information, image and video signal processing); B1265B (Logic circuits); B6320 (Radar equipment, systems and applications); C7410D (Electronic engineering computing); C5260B (Computer vision and image processing techniques); C5120 (Logic and switching circuits); C5220 (Computer architecture)

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13/9/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC
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01460653 INSPEC Abstract Number: A80017982

Title: A pulsed NQR-FFT spectrometer for nitrogen-14

Author(s): Harding, J.C., Jr.; Wade, D.A.; Marino, R.A.; Sauer, E.G.; Klainer, S.M.

Author Affiliation: Block Engng. Inc., Cambridge, MA, USA

Journal: Journal of Magnetic Resonance vol.36, no.1 p.21-33

Publication Date: Oct. 1979 Country of Publication: USA

CODEN: JOMRA4 ISSN: 0022-2364

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P); Experimental (X)

Abstract: A pulsed NQR spectrometer system with fast Fourier transform capabilities operating in the range 0.5 to 5 MHz is described. The transmitter and receiver use a heterodyne ***configuration*** to eliminate carrier feedthrough problems present in standard autodyne NQR spectrometers. A unique matching network containing the sample coil allows simultaneous tuning of both the transmitter and the receiver over a two-to-one frequency range. Gating of the system is ***controlled*** by a versatile pulse ***sequencer*** which can generate Carr-Purcell, Meiboom-Gill modified Carr-Purcell, and spin-locked spin-echo sequences, as well as a standard sequence of $\pi/2$ pulses suitable for T_1 measurements or collection of FID signals. The ***sequencer*** generates data collection ***control*** signals for a Digilab FTS data system with real-time co-adding and fast Fourier transform capabilities. Examples of experimental results obtained with the spectrometer and data system are presented. (13 Refs)

Subfile: A

Descriptors: ***magnetic*** ***resonance*** spectrometers; nitrogen; nuclear quadrupole resonance; radiofrequency spectrometers; spin echo (***NMR***)

Identifiers: fast Fourier transform; transmitter; receiver; heterodyne configuration; pulsed nuclear quadrupole resonance spectrometer; ^{14}N ; Carr Purcell spin echo sequences; Meiboom Gill modified Carr Purcell spin echo sequences; spin locked spin echo sequences; Digilab FTS data system

Class Codes: A0758 (Magnetic resonance spectrometers, auxiliary instruments and techniques); A3325K (Nuclear quadrupole resonance (NQR))

13/9/3 (Item 1 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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05116869 E.I. No: EIP98094374866

Title: High-performance automatic target recognition through data-specific VLSI

Author: Chia, Kang-Ngee; Kim, Hea Joung; Lansing, Shane; Mangione-Smith, William H.; Villasenor, John

Corporate Source: Natl Computer Board, Singapore, Singapore

Source: IEEE Transactions on Very Large Scale Integration (VLSI) Systems v 6 n 3 Sep 1998. p 364-371

Publication Year: 1998

CODEN: IEVSE9 ISSN: 1063-8210

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9811W2

Abstract: Under the Mojave ***configurable*** computing project, we have developed a system for achieving high performance on an automatic target

recognition (ATR) application through the use of ***configurable*** computing technology. The ATR system studied here involves real-time image acquisition from a synthetic aperture radar (SAR). SAR images exhibit statistical properties which can be used to improve system performance. In this paper, the Mojave ***configurable*** computing system uses field programmable gate arrays (FPGA's) to implement highly specialized circuits while retaining the flexibility of programmable components. A ***controller*** ***sequences*** through a set of specialized circuits in response to real-time events. Computer-aided design (CAD) tools have been developed to support the automatic generation of these specialized circuits. The resulting ***configurable*** computing system achieves a significant performance advantage over the existing solution, which is based on application specific integrated circuit (ASIC) technology. (Author abstract) 23 Refs.

Descriptors: VLSI circuits; Radar ***imaging***; Radar target recognition ; Synthetic aperture radar; Image analysis; Data acquisition; Real time systems; Field programmable gate arrays; Application specific integrated circuits; Computer aided design

Identifiers: Automatic target recognition (ATR) systems; Reconfigurable computing

Classification Codes:

714.2 (Semiconductor Devices & Integrated Circuits); 716.2 (Radar Systems & Equipment); 723.5 (Computer Applications); 723.2 (Data Processing); 722.4 (Digital Computers & Systems)

714 (Electronic Components); 716 (Radar, Radio & TV Electronic Equipment); 723 (Computer Software); 741 (Optics & Optical Devices); 722 (Computer Hardware)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY)

13/9/4 (Item 2 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04654660 E.I. No: EIP96113415274

Title: Four-meter diameter adaptive optical system technology demonstration

Author: Cox, Charles D.; Furber, Mark E.

Corporate Source: Hughes Danbury Optical Systems Inc., Lexington, MA, USA

Conference Title: Space Telescopes and Instruments IV

Conference Location: Denver, CO, USA Conference Date: 19960806-19960807

Sponsor: SPIE - Int Soc for Opt Engineering, Bellingham, WA USA

E.I. Conference No.: 22749

Source: Proceedings of SPIE - The International Society for Optical Engineering v 2807 1996. p 132-141

Publication Year: 1996

CODEN: PSISDG ISBN: 0-8194-2195-2

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9705W2

Abstract: A lightweight segmented adaptive optical telescope for spaceborne applications is described and details of a hardware demonstration program presented. This program demonstrates, at a 4-meter aperture, a ***configuration*** and technologies for large deployable ***imaging*** systems. Real-time sensing and control is achieved using a

suite of sensors to continuously measure wavefront error and segment phasing. The resulting state vector is operated on by the control algorithms and the resultant optimization commands applied to precision actuators to correct the system wavefront. The demonstrated technologies are discussed, along with details of the space qualifiable hardware ***configuration***. These technologies include: a shearing interferometer wavefront sensor, autonomous hierarchical ***control*** ***sequences***, lightweight graphite composite structures, and large lightweight optics. 8 Refs.

Descriptors: *Optical systems; Adaptive optics; Technology; Real time systems; Optical sensors; Algorithms; Optimization; Actuators; Interferometers; Control systems

Identifiers: Shearing interferometers; Wavefront sensors

Classification Codes:

741.3 (Optical Devices & Systems); 741.1 (Light/Optics); 723.1 (Computer Programming); 731.1 (Control Systems); 941.3 (Optical Instruments)

741 (Optics & Optical Devices); 723 (Computer Software); 731 (Automatic Control Principles); 941 (Acoustical & Optical Measuring Instruments)

74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING); 94 (INSTRUMENTS & MEASUREMENT)

13/9/5 (Item 3 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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01239188 E.I. Monthly No: EIM8209-032712

Title: EFFECT OF SHAPE CODING AND MIRROR ***IMAGING*** OF CONTROL KNOBS.

Author: Schurick, Jayne

Corporate Source: Calif State Univ, Northridge, USA

Conference Title: Proceedings of the Human Factors Society 25th Annual Meeting.

Conference Location: Rochester, NY, USA Conference Date: 19811012

Sponsor: Hum Factors Soc, Santa Monica, Calif, USA

E.I. Conference No.: 00646

Source: Proceedings of the Human Factors Society 25th Annual Meeting.

Publ by Hum Factors Soc, Santa Monica, Calif, USA p 440-444

Publication Year: 1981

CODEN: PHFSDQ

Language: English

Document Type: PA; (Conference Paper)

Journal Announcement: 8209

Descriptors: *INSTRUMENTS--*Knobs

Identifiers: OPTIMUM ***ARRANGEMENT*** OF ***CONTROLS***; LEFT-TO-RIGHT ***SEQUENCE*** ***CONTROLS***; SEQUENTIAL ***ARRANGEMENT*** OF ***CONTROLS***; DUAL WORKSTATION ROOF BOLTER; UNDERGROUND COAL MINING MACHINE; SHAPE CODED KNOBS HELPFUL DURING LEARNING; ROOF BOILER SIMULATOR WITH CONTROL STATION; MOVABLE BOOM AND POWER SUPPLY AND RECORDING EQUIPMENT; CONTROL ACTIVATION ERRORS FOR LEARNING AND TRANSFER; HIGH PRESSURE TASK SITUATION SUBJECTS

Classification Codes:

941 (Acoustical & Optical Measuring Instruments); 942 (Electrical & Electronic Measuring Instruments); 943 (Mechanical & Miscellaneous Measuring Instruments); 944 (Moisture, Pressure & Temperature, & Radiation

Measuring Instruments); 605 (Small Tools & Hardware)
94 (INSTRUMENTS & MEASUREMENT); 60 (MECHANICAL ENGINEERING)

13/9/6 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

07578605 Genuine Article#: 181MZ Number of References: 14
Title: Experimental MR-guided cryotherapy of the brain with almost
real-time ***imaging*** by radial k-space scanning.
Author(s): Tacke J (REPRINT) ; Speetzen R; Schorn R; Glowinski A;
Grosskortenhaus S; Adam G; Rasche V; Rau G; Gunther RW
Corporate Source: RHEIN WESTFAL TH AACHEN, RADIOL DIAGNOST KLIN, PAUWELSSTR
30/D-52074 AACHEN//GERMANY/ (REPRINT); RHEIN WESTFAL TH
AACHEN, HELMHOLTZ INST BIOMED TECH/D-5100 AACHEN//GERMANY//; PHILIPS
GMBH, FORSCHUNGSLAB/D-2000 HAMBURG//GERMANY/
Journal: ROFO-FORTSCHRITTE AUF DEM GEBIET DER RONTGENSTRAHLEN UND DER
BILDGEBENDEN VERFAHREN, 1999, V170, N2 (FEB), P214-217
ISSN: 0936-6652 Publication date: 19990200
Publisher: GEORG THIEME VERLAG, P O BOX 30 11 20, D-70451 STUTTGART,
GERMANY
Language: German Document Type: ARTICLE
Geographic Location: GERMANY
Subfile: CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING
Abstract: Purpose: To test radial k-space scanning by MR fluoroscopy to
guide and control MR-guided interstitial cryotherapy of the healthy pig
brain. Methods: After MR tomographic planning of the approach, an
MR-compatible experimental cryotherapy probe of 2.7 mm diameter was
introduced through a 5 mm burr hole into the right frontal brain of
five healthy pigs. The freeze-thaw cycles were imaged using a
T-1-weighted gradient echo sequence with radial k-Space scanning in
coronal, sagittal, and axial directions. Results: The high temporal
resolution of the chosen sequence permits a continuous representation
of the freezing process with good image quality and high contrast
between ice and unfrozen brain parenchyma. Because of the interactive
conception of the sequence the layer plane could be chosen as desired
during the measurement. Ice formation was sharply demarcated,
spherically ***configured***, and was free of signals, its maximum
diameter was 13 mm. Conclusions. With use of the novel, interactively
controllable gradient echo ***sequence*** with radial k-space
scanning, guidance of the intervention under fluoroscopic conditions
with the advantages of MRT is possible. MR-guided cryotherapy allows a
minimally-invasive, precisely dosable focal tissue ablation.
Descriptors--Author Keywords: cryotherapy ; minimally invasive therapy ;
brain interventional MRT ; MR fluoroscopy
Identifiers--KeyWord Plus(R): LIVER

13/9/7 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs
(c) 2001 The HW Wilson Co. All rts. reserv.

1634861 H.W. WILSON RECORD NUMBER: BAST98019465
Efficient learning of VAM-based representation of 3D targets and its active

vision applications

Srinivasa, Narayan; Sharma, Rajeev

Neural Networks v. 11 (Jan. '98) p. 153-71

DOCUMENT TYPE: Feature Article ISSN: 0893-6080 LANGUAGE: English

RECORD STATUS: Corrected or revised record

ABSTRACT: There has been a considerable interest in using active vision for various applications. This interest is primarily because active vision can enhance machine vision capabilities by dynamically changing the camera parameters based on the content of the scene. An important issue in active vision is that of representing 3D targets in a manner that is invariant to changing camera ***configurations***. This paper addresses this representation issue for a robotic active vision system. An efficient Vector Associative Map (VAM)-based learning scheme is proposed to learn a joint-based representation. Computer simulations and experiments are first performed to evaluate the effectiveness of this scheme using the University of Illinois Active Vision System (UIAVS). The invariance property of the learned representation is then exploited to develop several robotic applications. These include, detecting moving targets, saccade ***control***, planning saccade ***sequences*** and ***controlling*** a robot manipulator. Reprinted by permission of the publisher.

DESCRIPTORS: Active robotic vision--Neural network models; Target recognition--Neural network models; Three dimensional ***imaging***;

13/9/8 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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14661131 PASCAL No.: 00-0333859

Temperature mapping of ***magnetic*** ***resonance***-guided laser interstitial thermal therapy (LITT) in Lymphangiomas of the head and neck
EYRICH G K H; BRUDER E; HILFIKER P; DUBNO B; QUICK H H; PATAK M A; GRAETZ K W; SAILER H F

Department of CranioMaxillofacial Surgery, University Hospital Zuerich, 8091 Zuerich, Switzerland; Department of Pathology, University Hospital Zurich, 8091 Zuerich, Switzerland; Department of and Radiology, University Hospital Zuerich, 8091 Zuerich, Switzerland

Journal: Lasers in surgery and medicine, 2000, 26 (5) 467-476

ISSN: 0196-8092 CODEN: LSMEDI Availability: INIST-18391;

354000088800080060

No. of Refs.: 18 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United States

Language: English

Background and Objective: Lymphangiomas of the tongue and neck are uncommon benign congenital lymphatic tumors. These vascular lesions are difficult to treat, frequently recur, and can cause patients significant morbidity. Treatment may also be complicated by adjacent vital anatomic structures. ***Magnetic*** ***resonance*** (MR)-controlled laser-induced interstitial thermotherapy (LITT) has been proven to be a noninvasive safe treatment. Real-time monitoring of tissue temperature with thermosensitive ***sequences*** allows ***controlled*** coagulation necrosis. Study Design/Materials and Methods: LITT was performed in a lymphangioma specimen ex vivo. In four patients (eight procedures) with lymphangiomas of the

tongue and neck, MR-guided LITT was performed with a percutaneous approach in a multiapplicator technique. The laser system consisted of a titanium catheter and a protective catheter. The dome of the fiber end had a diameter of 1.4 mm with an active length of 20 mm. Temperature sensitive sequences were used in a 0.5 T open-***configured*** MR scanner with the proton frequency shift technique to map the spatial and temporal distribution of Nd:YAG laser effects (7 Watts, 30 pulses per second, 10 minutes/location). Postoperative MR follow-up was performed at 1 week and at 3 months. In three patients, partial resection of the tumor was performed 6 months after LITT. Results: In three patients, MR clearly showed a diminished tumor volume. All four patients reported subjective amelioration and in three patients former functional problems, such as speech and swallowing were improved. MR thermometry allowed accurate demarcation of changes by heat and distinction of affected tumor volume (3.0 cm +/- 0.3 cm). The histology of the patients 6 months after LITT showed laser-induced fibrosis of former lymphatic tissue. Conclusion: The results suggest that LITT can be performed safely with tissue preserving of vital structures and can be effective in the treatment of deep tumors, such as lymphangiomas. However, given the nature of the lesion, the potential for recurrence exists no matter what modality is chosen.

English Descriptors: Thermotherapy; Interstitial space; Human; Tumor; Head and neck; Temperature distribution; Lymphangioma; Treatment efficiency; Guidance; Nuclear ***magnetic*** ***resonance*** ***imaging***; Laser; Real time system

Broad Descriptors: ENT disease; Cardiovascular disease; Lymphatic vessel disease; Benign neoplasm; Medical imagery; ORL pathologie; Appareil circulatoire pathologie; Lymphatique pathologie; Tumeur benigne; Imagerie medicale; ORL patologia; Aparato circulatorio patologia; Linfatico patologia; Tumor benigno; Imageneria medical

13/9/9 (Item 1 from file: 155)
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Experimental ***MRI*** -controlled cryotherapy of the brain with almost real-time ***imaging*** by radial k-space scanning]

Experimentelle MR-gesteuerte Kryotherapie des Gehirns mit nahezu Echtzeitdarstellung durch radiale k-Raum-Abtastung.

Tacke J; Speetzen R; Schorn R; Glowinski A; Grosskortenhau S; Adam G; Rasche V; Rau G; Gunther RW

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RoFo. Fortschritte auf dem Gebiete der Rontgenstrahlen und der neuen bildgebenden Verfahren (GERMANY) Feb 1999, 170 (2) p214-7, ISSN 0936-6652 Journal Code: A7R

Languages: GERMAN Summary Languages: ENGLISH

Document type: JOURNAL ARTICLE ; English Abstract

JOURNAL ANNOUNCEMENT: 9906

Subfile: INDEX MEDICUS

PURPOSE: To test radial k-space scanning by MR fluoroscopy to guide and control MR-guided interstitial cryotherapy of the healthy pig brain.

METHODS: After MR tomographic planning of the approach, an MR-compatible experimental cryotherapy probe of 2.7 mm diameter was introduced through a

5 mm burr hole into the right frontal brain of five healthy pigs. The freeze-thaw cycles were imaged using a T1-weighted gradient echo sequence with radial k-space scanning in coronal, sagittal, and axial directions. RESULTS: The high temporal resolution of the chosen sequence permits a continuous representation of the freezing process with good image quality and high contrast between ice and unfrozen brain parenchyma. Because of the interactive conception of the sequence the layer plane could be chosen as desired during the measurement. Ice formation was sharply demarcated, spherically ***configured***, and was free of signals. Its maximum diameter was 13 mm. CONCLUSIONS: With use of the novel, interactively ***controllable*** gradient echo ***sequence*** with radial k-space scanning, guidance of the intervention under fluoroscopic conditions with the advantages of MRT is possible. MR-guided cryotherapy allows a minimally-invasive, precisely dosable focal tissue ablation.

Tags: Animal; Male

Descriptors: Cryosurgery--Instrumentation--IS; *Fluoroscopy--Instrumentation--IS; *Frontal Lobe--Surgery--SU; ****Magnetic*** **Resonance*** **Imaging***--Instrumentation--IS; *Surgical Procedures, Minimally Invasive--Instrumentation--IS; Equipment Design; Frontal Lobe--Pathology--PA; Image Enhancement--Instrumentation--IS; Image Processing, Computer-Assisted--Instrumentation--IS; Swine; Trephining--Instrumentation--IS

13/9/10 (Item 2 from file: 155)
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05546820 21224180

The role of STIR ***MRI*** sequence in the evaluation of the breast following conservative surgery and radiotherapy.

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Neoplasma (Slovakia) 2001, 48 (1) p7-11, ISSN 0028-2685
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Document type: Journal Article

Subfile: INDEX MEDICUS

The purpose of the study was to define the value of fat suppressed STIR sequence in the ***MRI*** of the conserved breast. To our knowledge, this study is the first clinical evaluation of STIR sequence in post-therapy conditions. Forty patients with early (T1-2, N0-1) invasive breast cancer underwent conservative surgery and postoperative radiotherapy. Routine follow-up examinations, including physical examination and mammography were supplemented with breast ***MRI*** in all cases 6-166 months (mean 27.6) after initial treatments. Three patients had bilateral cancer. Including follow-up (9 patients) ***MRI*** examinations, altogether 53 MRIs were available for analysis. An 0.5 T ***MRI*** (Elscint, Haifa, Israel) was used with double breast coil. Axial T1 and T2 weighted spin echo, STIR and 3D gradient echo dynamic sequences were performed. Pre- and postcontrast slices underwent serial subtraction. Twenty-eight circumscribed lesions were identified. All were well visualised on STIR sequence, regardless of histologic nature of lesions. One low grade DCIS was not detected by any sequence. Differential diagnosis between benign and malignant lesions was not possible by STIR sequence alone. STIR sequence was found to be more

sensitive in the detection of treatment related breast edema and fluid collection, than T2 SE (spin-echo) sequence. Even the patients who were not good candidates for subtracted contrast enhanced dynamic studies - because of motion artefacts - could have been examined with satisfactory results. STIR is ***a*** very sensitive ***sequence*** for depicting circumscribed lesions and post-therapy complications, but not suitable for differentiation. It is a useful tool in the follow-up of patients with conserved breast subjected to radiotherapy.

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07214155 EMBASE No: 1998069933

Visualization of MR-compatible catheters by electrically induced local field inhomogeneities: Evaluation in vivo

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Journal of Magnetic Resonance Imaging (J. MAGN. RESON. IMAGING) (United States) 1998, 8/1 (209-213)

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DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 11

The purpose of this study was to assess the feasibility of a newly developed field inhomogeneity catheter for interventional ***MRI*** in vivo. Different prototypes of a field inhomogeneity catheter (pigtail and multipurpose ***configuration***, balloon catheters) were investigated in pigs. The catheters were introduced in Seldinger technique via the femoral vessels over a guidewire on an interventional MR system (Philips Gyroscan NT combined with a C-arm fluoroscopy unit (Philips BV 212)). Catheters were placed in veins and arteries. The catheter position was ***controlled*** by fast gradient-echo ***sequence*** (turbo field echo (TFE)). Catheters were introduced over a guidewire without complications in all cases. Using the field inhomogeneity concept, catheters were easily visualized in the inferior vena cava and the aorta by the fast gradient-echo technique on MR in all cases. Although aortic branches were successfully cannulated, the catheters were not well displayed by the TFE technique due to the complex and tortuous anatomy. All animals survived the experiments without complications. MR-guided visualization of a field inhomogeneity catheter is a simple concept that can be realized on each MR scanner and may allow intravascular MR-guided interventions in future.

DEVICE BRAND NAME/MANUFACTURER NAME: Philips Gyroscan NT/philips/United States; Philips BV 212/philips/United States; Philips ACS NT 1.5T/philips/United States

DEVICE MANUFACTURER NAMES: philips/United States

MEDICAL DESCRIPTORS:

*nuclear ***magnetic*** ***resonance*** ***imaging***; *intravascular catheter; *interventional radiology; *electric field
swine; ***imaging*** system; ***magnetic*** ***resonance*** angiography;

fluoroscopy; femoral vein; femoral artery; inferior cava vein; aorta;
balloon catheter; guide wire; nonhuman; animal experiment; controlled study
; article; priority journal

SECTION HEADINGS:

014 Radiology

027 Biophysics, Bioengineering and Medical Instrumentation

14/9/1 (Item 1 from file: 8)
DIALOG(R)File 8: Ei Compendex(R)
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Title: CONCEPT FOR OPERATIONS OF THE ROSAT ATTITUDE MEASUREMENT AND
CONTROL ***SUBSYSTEM***.

Author: Bollner, M.
Corporate Source: DFVLR, Oberpfaffenhofen, West Ger
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Journal Announcement: 8701

Abstract: This paper describes the approach for operations of the ROSAT Attitude Measurement and ***Control*** ***Subsystem*** (AMCS). The ROSAT spacecraft (ROentgen SATellite) will carry a large X-ray telescope and a smaller XUV telescope. The main goal is to perform the first all-sky survey with an ***imaging*** X-ray telescope. Also pointing to selected celestial targets will be accomplished. The spacecraft is three-axis stabilized using reaction wheels, gyros and ***imaging*** star cameras as main attitude devices. According to the mission timeline AMCS operations must be supplied on ground. Due to a large number of commands and short ground contacts an automatic generation of commands in the following areas is required: orbit/ephemeris data, star catalogues for scan and pointing, scan and pointing control, star camera ***control***, maneuver ***independant*** commands. A data management and processing system is presented to perform the mentioned tasks. An AMCS hybrid simulator will support the operations personnel during tests and onboard software changes. (Edited author abstract) 5 refs.

Descriptors: *SATELLITES--*Control; TELESCOPES--Space Applications
Identifiers: ***CONTROL*** ***SUBSYSTEM***; ROSAT (ROENTGEN SATELLITE)
SPACECRAFT; ALL-SKY SURVEY; X-RAY TELESCOPES; XUV TELESCOPES; ROSAT
ATTITUDE MEASUREMENT

Classification Codes:
655 (Spacecraft); 731 (Automatic Control Principles); 732 (Control
Devices); 715 (General Electronic Equipment); 741 (Optics & Optical
Devices)
65 (AEROSPACE ENGINEERING); 73 (CONTROL ENGINEERING); 71 (ELECTRONICS
& COMMUNICATIONS); 74 (OPTICAL TECHNOLOGY)

14/9/2 (Item 1 from file: 35)
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DISTRIBUTED PROCESSING APPROACHES TO REAL-TIME DATA COLLECTION: AN
APPLICATION IN ***NMR*** SPECTROSCOPY

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Year: 1981
Corporate Source/Institution: THE FLORIDA STATE UNIVERSITY (0071)
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Descriptor Codes: 0486

Traditional approaches to the computerization of laboratory instrumentation result in a one-to-one correspondence between computer and instrument. This becomes ineffective in a multiple instrument laboratory. An alternative approach is one in which each instrument has a dedicated data acquisition and control computer, with several such computers linked through a laboratory data network to a centralized data management computer. The development of such an approach is the subject of this dissertation. The problem is first defined in the context of a Nuclear ***Magnetic*** ***Resonance*** (***NMR***) laboratory, followed by a brief history of computers and a discussion of the ways in which computers have been applied in ***NMR***.

After this, an introduction to the concepts essential to computer networking is presented, continuing with a discussion of the development of a local area network that utilizes industry-standard IEEE-488 protocols and incorporates differential line transmission for long-distance error-free operation. A Z80 microcomputer-based network interface is described which facilitates the easy connection of virtually any host computer to the network. Specific circuitry is also presented to interfaces S-100 (IEEE-696) microcomputers to the network.

Following discussion of the laboratory data network, the dissertation provides discussion of a microcomputer which was designed to operate as a stand-alone data acquisition and experimental control system, as well as a node in the network discussed earlier. This microcomputer utilizes several Z80 microprocessors and is based on S-100 circuit cards. Operator interaction is handled via a keyboard and a high resolution video graphics monitor. All software is based in Read Only Memory, providing a low-cost stand-alone system for a variety of laboratory applications. All data acquisition and experimental control is performed with sophisticated custom-built circuitry.

The remainder of the dissertation concentrates on the development of the custom circuits for data acquisition and experimental ***control***. A ***subsystem*** is discussed that allows the interfacing of the host microcomputer to as many as 255 ***independent*** ***control*** processors via a single twisted-pair cable: useful in low-speed control and monitoring applications. A second subsystem handles data collection and time-critical instrument ***control***. This ***subsystem***, called the DAS, or Data Acquisition Subsystem, is based on modular design approaches, and consists of from two to five S-100 circuit cards. A minimal system is one Analog to Digital Converter card and a Signal Averager card. The AD circuit has on-board controls for analog gain, low-pass filtering, and digital resolution. The Signal Averager has three on-board counters to provide all of the control and timing signals for data collection. A hardware averager is also provided to allow the coaddition of repetitive signals. The Signal Averager is designed to support an optional Direct Memory Access Sequencer for high-speed signal averaging. A second AD card can be added to this subsystem, providing simultaneous two-channel data collection. The DAS optionally includes a Programmable Timer/Pulse Controller circuit which executes sophisticated timing programs of up to 16 steps with 50 nanosecond time resolution and maximum step length in excess of 15 hours. Precise

experimental control is obtained through any of 24 programmable outputs that can be activated on any step.

Examples of the use of this system in ***NMR*** data collection are included.